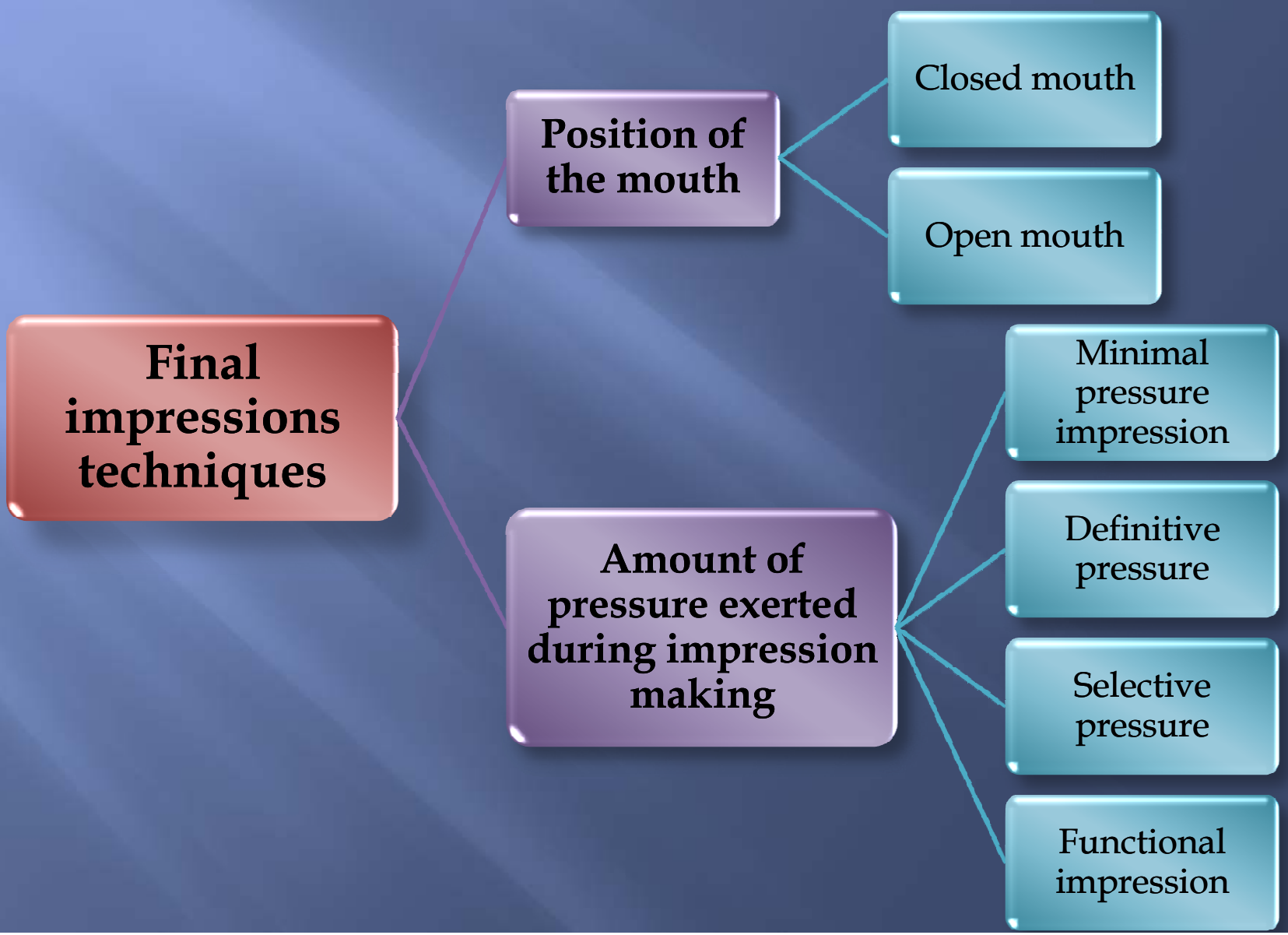
FINAL IMPRESSION

Final inpression



Impression techniques

	Amount of pressure applied
Minimal pressure impression	Sometimes called muco-static, open mouth or passive non-pressure. This technique aim to record the denture bearing area under minimal amount of pressure and so the tissues in relative rest state.
Definitive pressure impression	It is also called muco-compressive or closed mouth. The impression record the bearing mucosa under biting force. The greater the biting force the greater the displacement
Selective pressure impression	This technique combine the previous techniques by applying pressure over certain tissues and minimize pressure over other tissues.

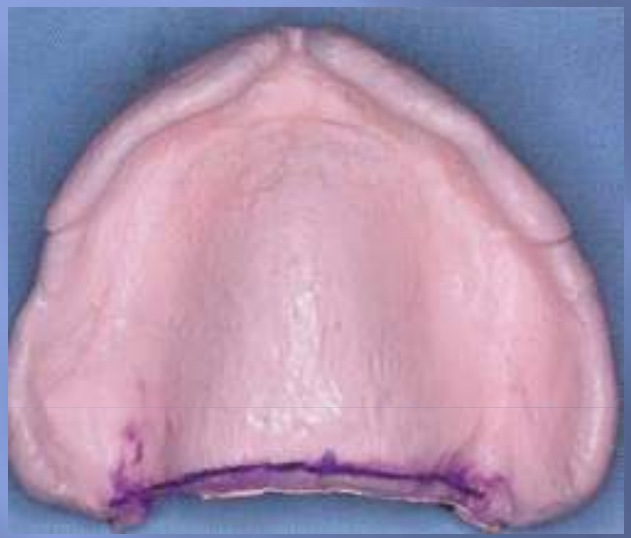
Impression techniques

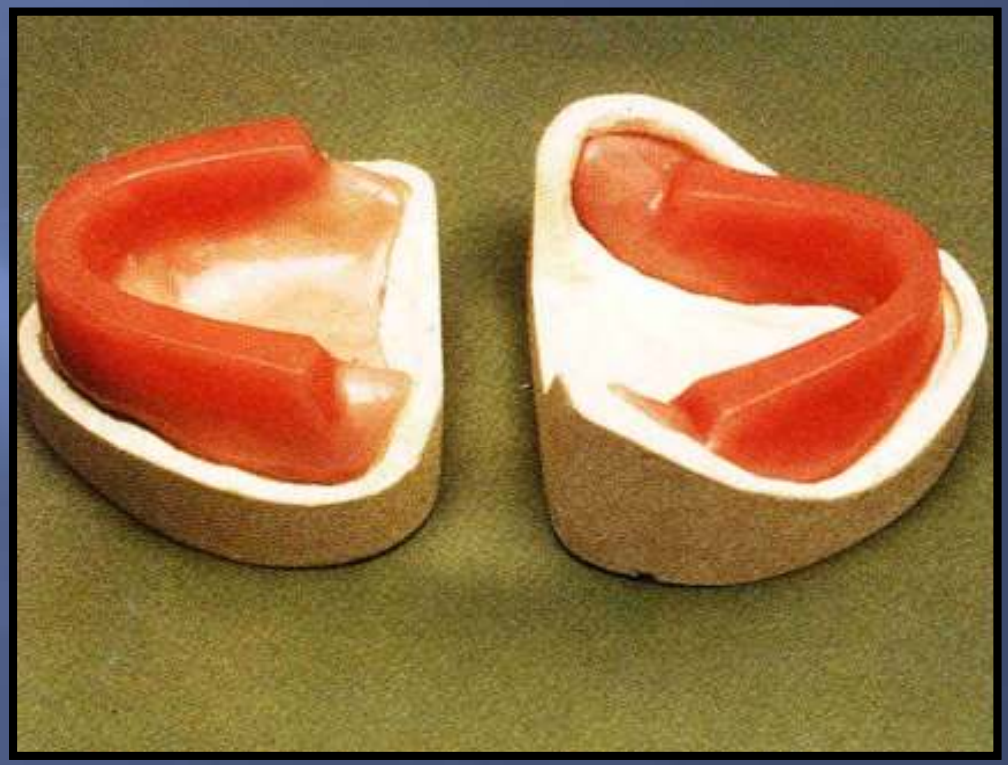
	Materials used
Minimal pressure impression	Materials with high flow and low viscosity like ***plaster of paris and alginate***
Definitive pressure impression	Materials with high viscosity and low flowing properties. They also have adequate setting time to allow functional movement. These material as ***zinc oxide eugenol***.
Selective pressure impression	***Compound impression*** material over the tissue to be compressed and ***plaster of paris*** wash over tissues needed to be recorded at rest

Impression techniques

	Tray used
Minimal pressure impression	Trays should have spacer of even and enough thickness. 3 to 4 stops properly distributed. 1 to 2 holes to allow excess material escape.
Definitive pressure impression	Trays constructed without spacer and have occlusion rims at the proper vertical dimension.
Selective pressure impression	Compound impression is used as a tray after scrapping for the final plaster of paris wash. Another technique used special tray with window at the movable tissue.

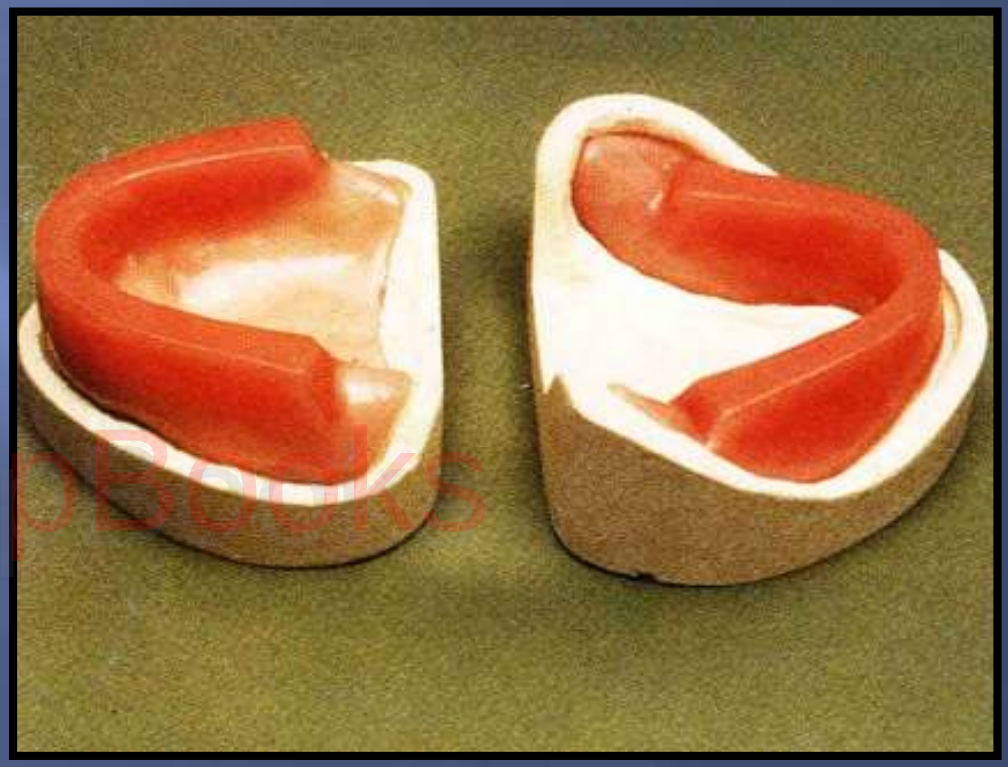
Definitive pressure impression





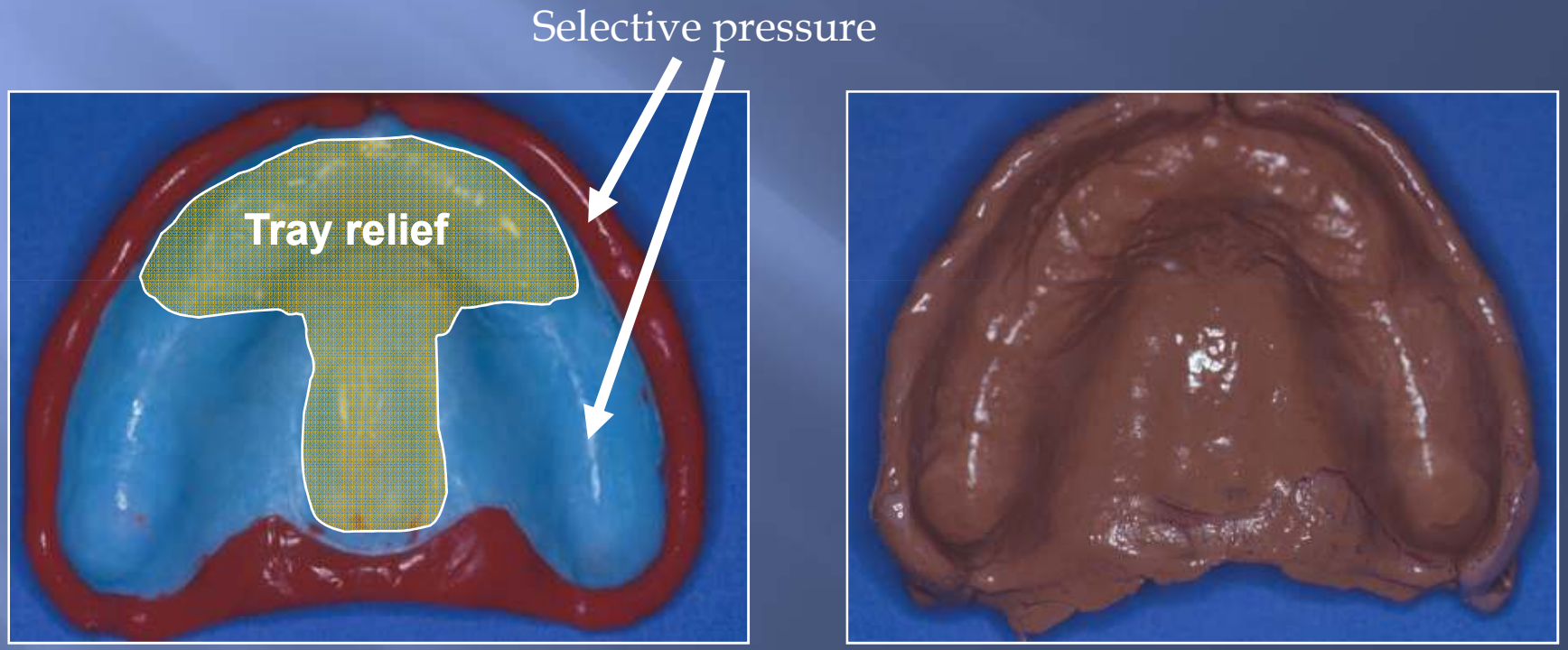
Occlusion rims constructed at proper vertical dimension

Definitive pressure impression



Occlusion rims constructed at proper vertical dimension

Selective pressure impression



WINDOW TRAY IMPRESSION TECHNIQUE

- Indicated for mobile, hypertrophic tissues
- The pre-maxillary area is prone to significant resorption especially when opposed by natural dentition.

WINDOW TRAY IMPRESSION TECHNIQUE

- This technique is used to record highly mobile or hypertrophic tissue with minimum displacement.

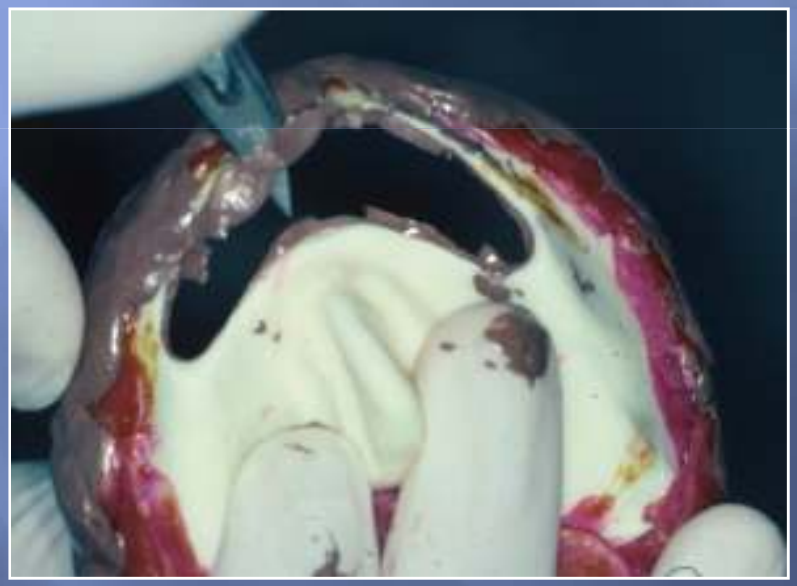
Mobile tissues are most often seen anteriorly and may be particularly prominent in patients with combination syndrome. It is inadvisable to remove these mobile tissues because the underlying bony ridge is usually knife edged. These tissues act as a cushion and rarely impinge upon the interocclusal space.

WINDOW TRAY IMPRESSION TECHNIQUE

1) Outline the mobile tissue on your preliminary cast.
2) Construct the custom tray so that there is a window (open area) over the mobile tissue.
3) The handle should be place in the middle of the palate
4) Border mold and make the polysulfide impression in the usual manner

WINDOW TRAY IMPRESSION TECHNIQUE

- Cut out the polysulfide impression material in the window with a sharp scalpel.

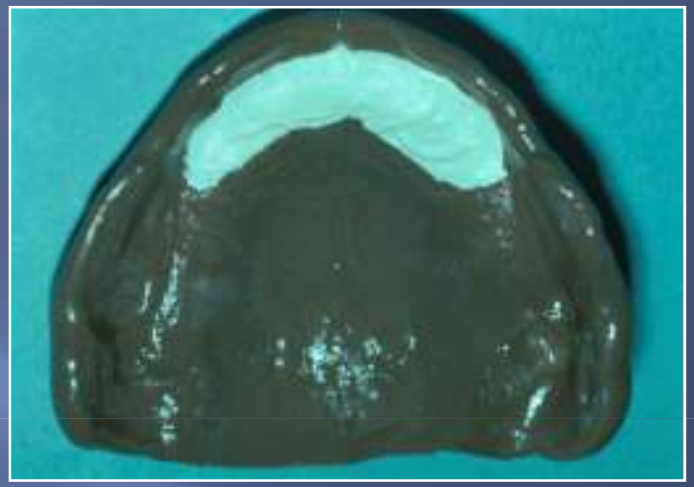


WINDOW TRAY IMPRESSION TECHNIQUE

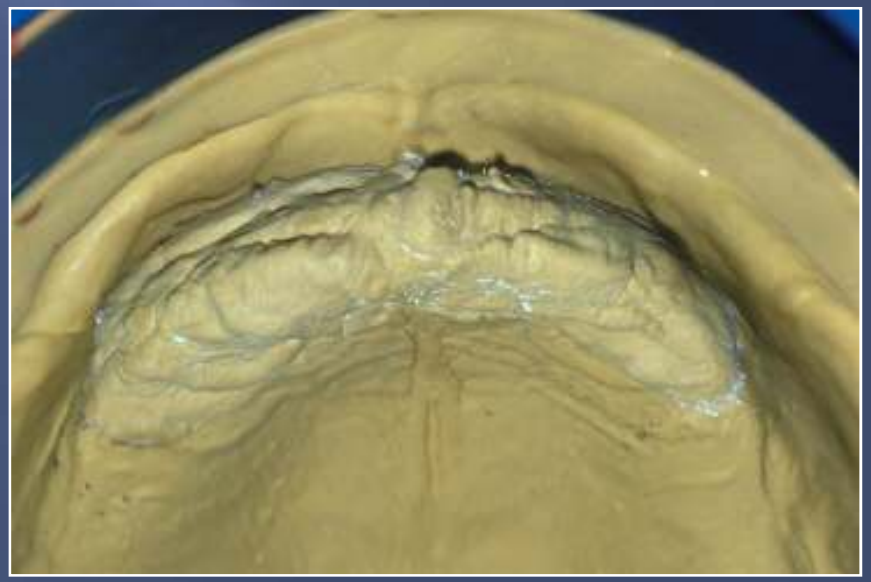
- The mobile tissue area will be recorded with a zinc oxide impression material (Krex) or other suitable material.
- Seat the impression back into the patient's mouth.
- Mix the impression material and apply it over the mobile tissue with a small brush or syringe.

WINDOW TRAY IMPRESSION TECHNIQUE

Completed Impression



- Master cast: Note the detailed recording of the mobile tissues



Selective pressure impression

Impression techniques

	Advantages	Disadvantages
Minimal pressures impression technique	1- allow visualizing the proper border molding 2- minimal tissue distortion 3- suitable for flabby ridge and thin wiry ridge 4- tissues receive minimal pressure so less interference to blood supply	1- not fit all times due to changes in mucosal typography. 2- neglect wide distribution of force. 3- consider the interfacial surface tension is the only retentive mechanism.
Definitive pressure impression technique	1- allow patient masticatory forces during setting of impression material 2- proper lingual border molding due to closed mouth during molding	1- over-extended denture 2- denture not fit at rest due to tissue rebound 3- tissue may become permanently deformed 4- deprive denture bearing mucosa from adequate blood supply.

Functional impression

- poor muscle adaptation and/or imbalance or because of problems of available denture space.
- impression materials used to make functional should have a long setting time (1 hour).
- tissue conditioning material or resilient liner is the materials of choice

Tissue conditioning material before and after molding

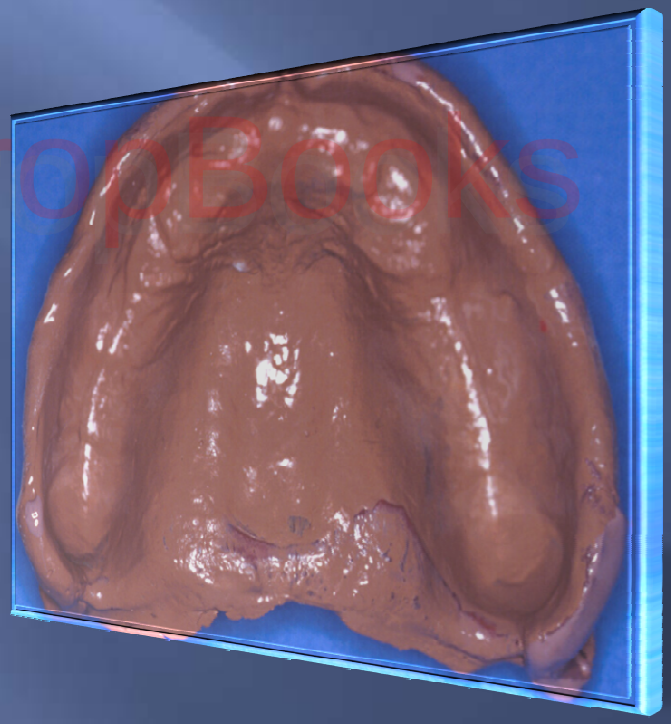
Procedures for final impression

Instruments & Materials:

- Dental compound
- Kingsley scraper
- Slow speed handpiece
- Acrylic bur
- #7 wax spatula
- Indelible marking sticks
- Red handled knife
- Custom impression trays
- Alcohol torch
- Water bath

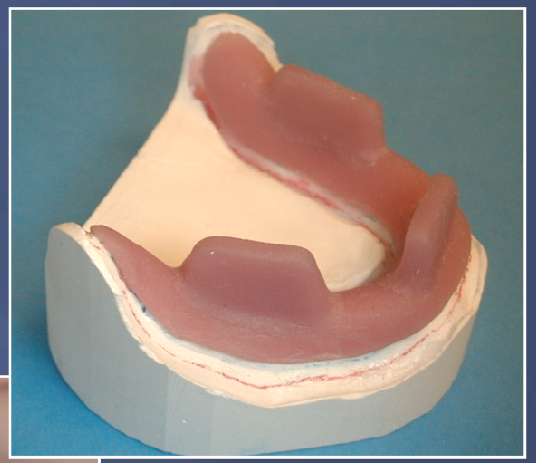
- Instruct the patient to leave out his dentures for 24 hours prior to the final impression appointment to allow rebound of the mucosa.

Maxillay final impression

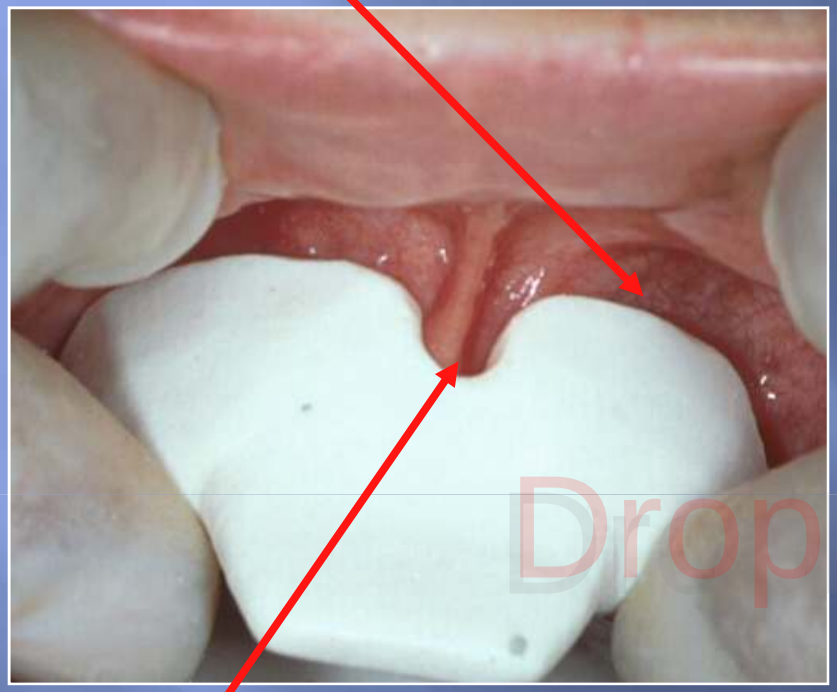


Tray adjustment

- **Adjust tray extension**
  - 2-3mm short of the depth of the vestiblule
  - Verify border extension intraorally and further adjust if necessary

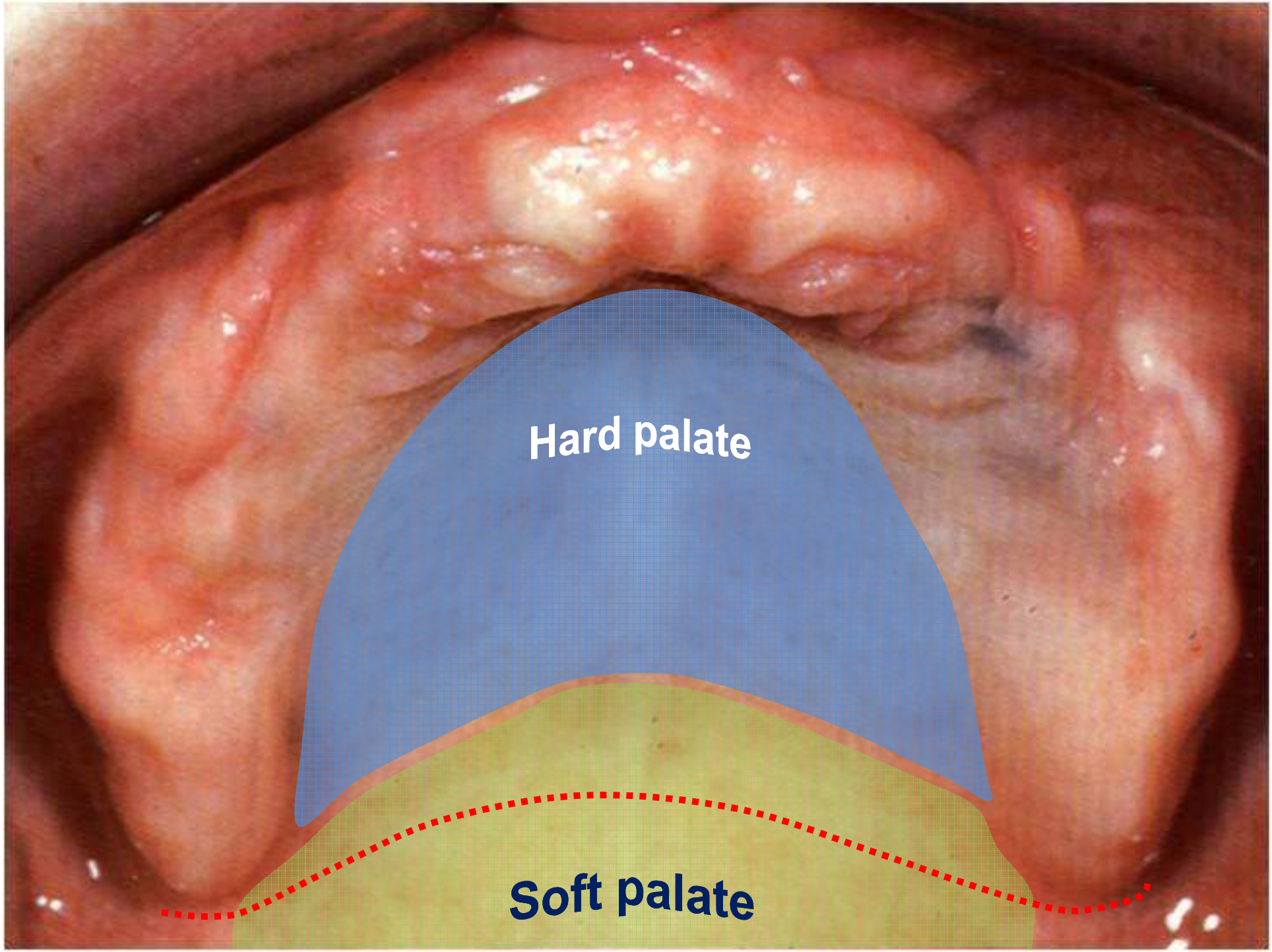


Check the labial flange extension



Check frenum clearance

Check extension along the buccal vestibule

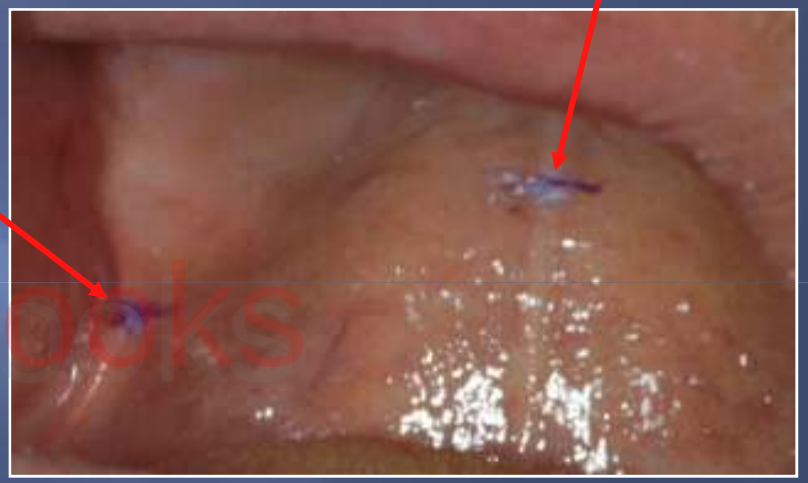

Hard palate
Soft palate

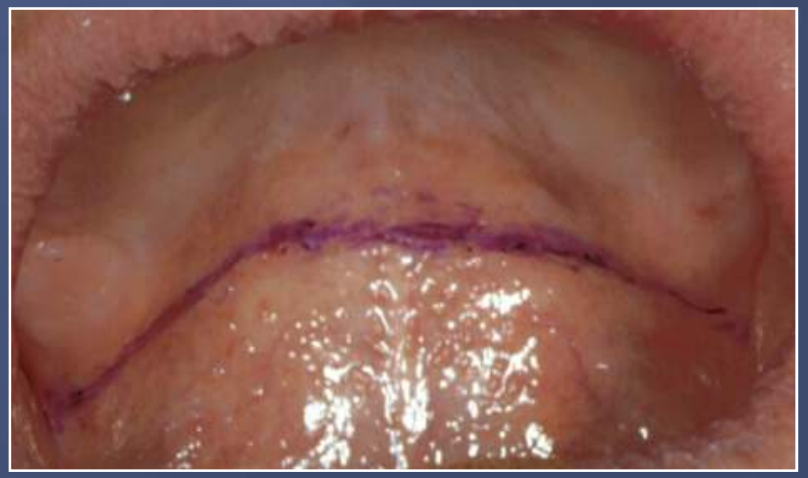
Posterior Palatal Extension

- Identify the hamular notch
- Extend the tray 2 mm beyond the vibrating line

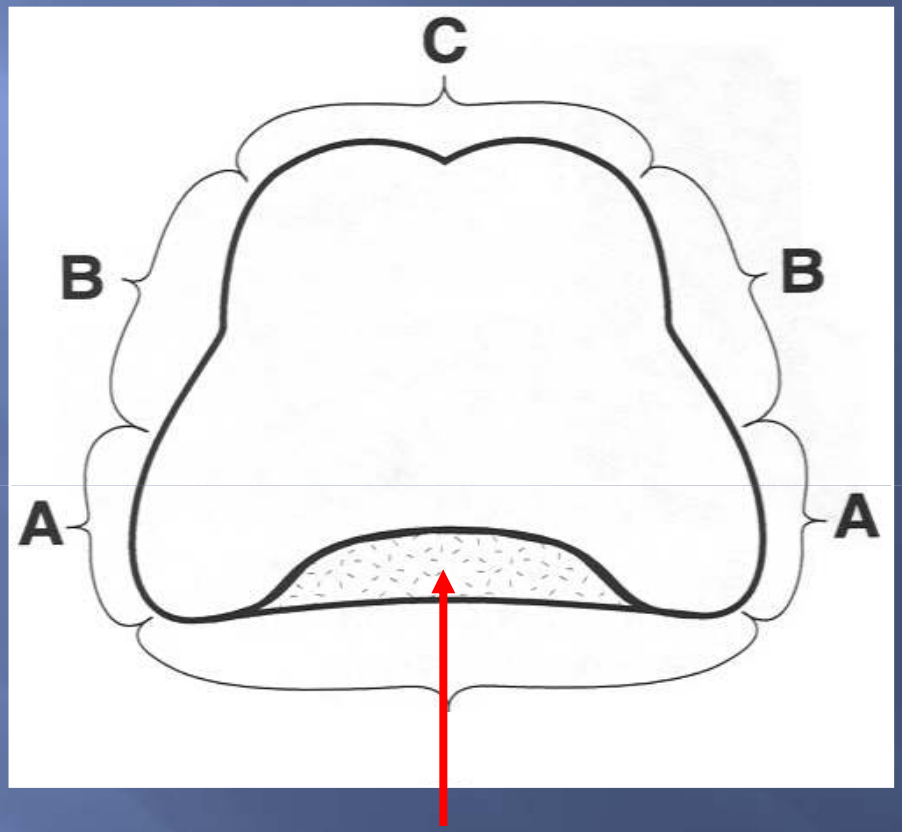
Hamular notch

Vibrating line





SEQUENCE OF MAXILLARY BORDER MOLDING



The posterior palatal seal area is added last and the tray is tested for peripheral seal.

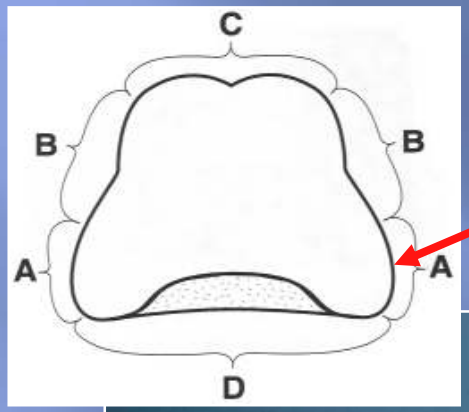
BORDER MOLDING

- Heat the modeling compound over a flame

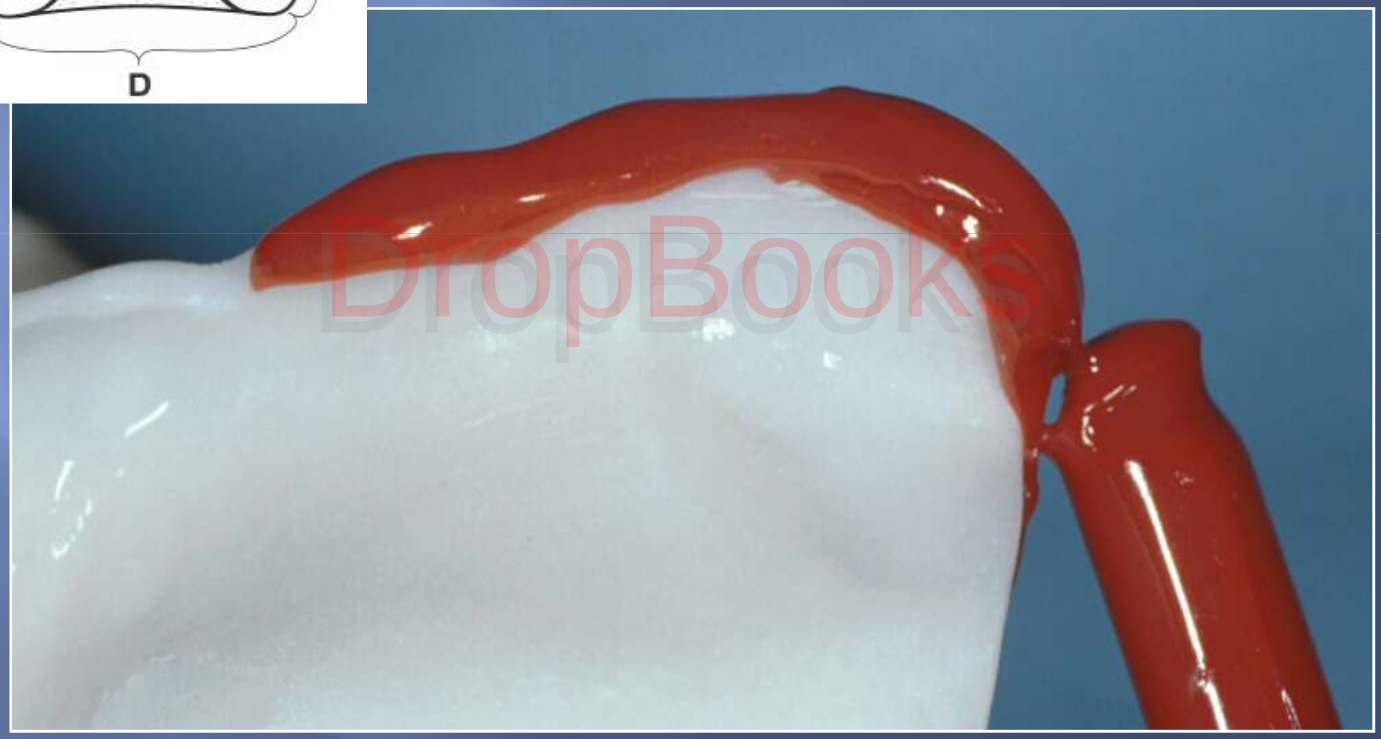
BORDER MOLDING

- Slowly soften the end of the compound

BORDER MOLDING



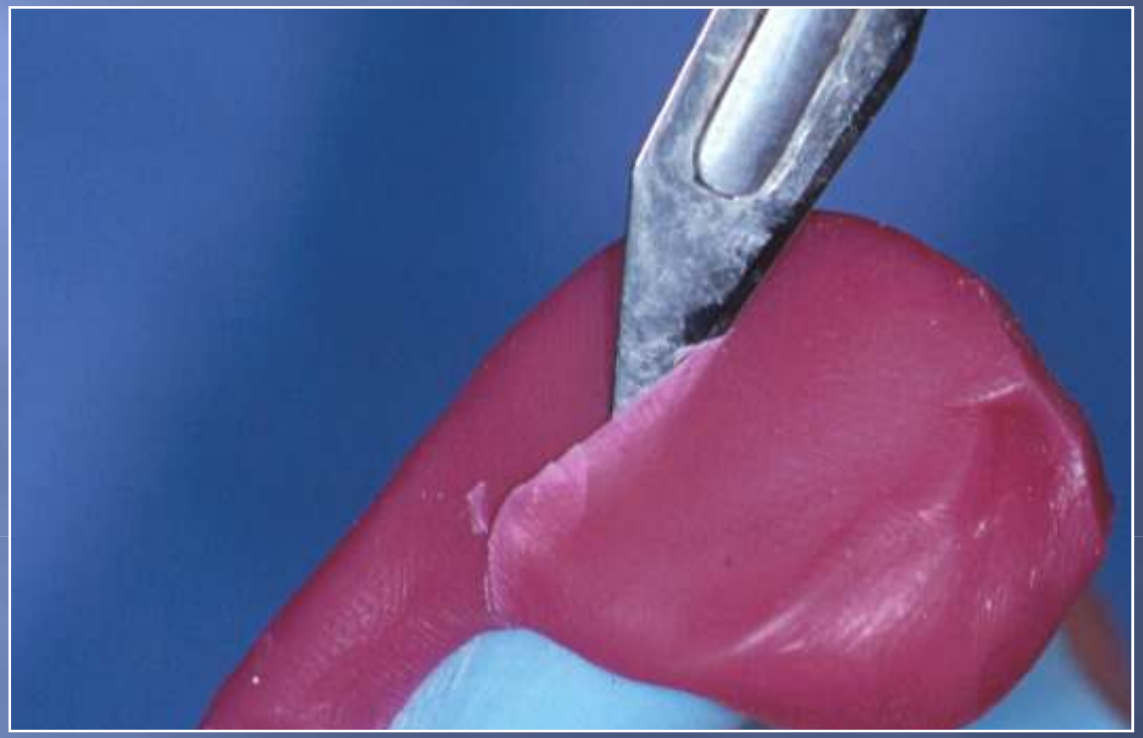
- Dry the tray, then add the compound to section “A”



BORDER MOLDING

- **Temper the compound** in the water bath. The temperature of the water bath should be 110° for ISO red compound. The temperature varies depending on the type of compound used.
- Patient is instructed to move jaw side to side, suck and smile.

Insert the tray in the patient mouth then ask him to suck

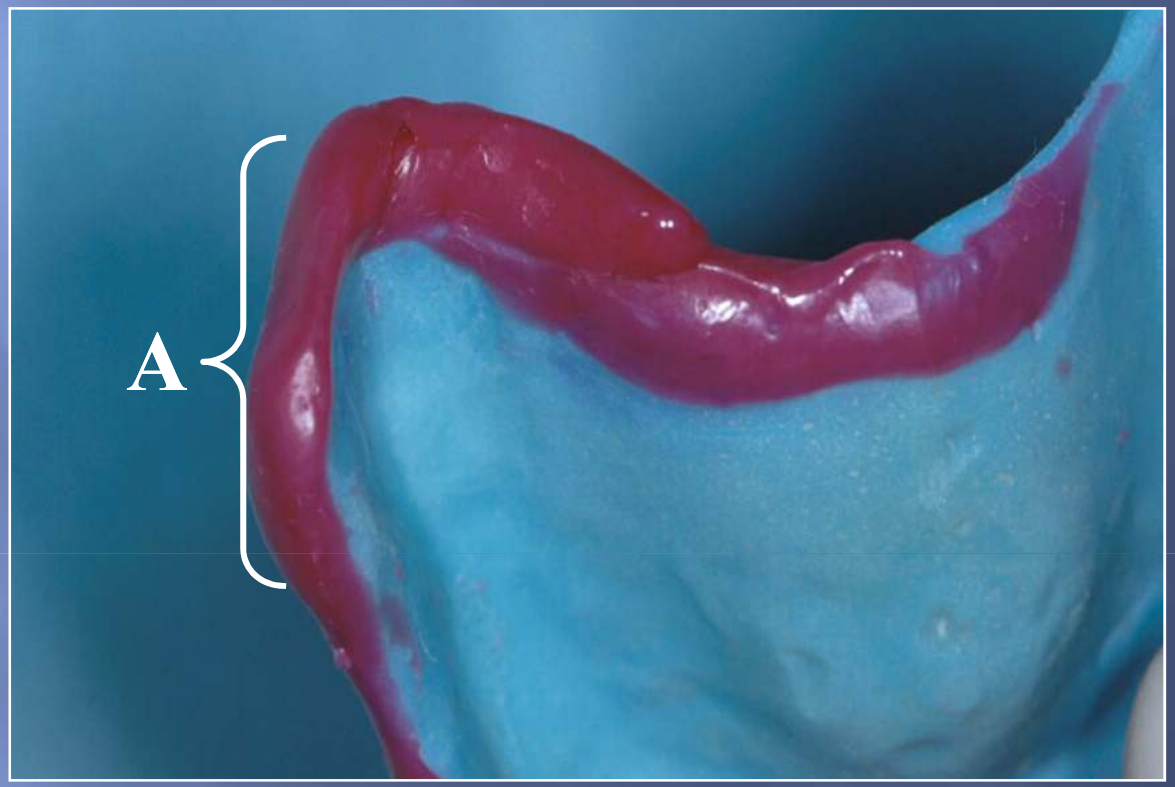


- The compound must be thoroughly cooled before you begin trimming, otherwise the compound will be easily distorted.
- Excess compound on the external surfaces is best removed with the **red handled knife** with a fresh, sharp scalpel blade.

BORDER MOLDING OVEREXTENSION:

- Area “A” is excessively thick. This is a common area of overextension. This area needs to be further remolded.
- The compound is reheated with the alcohol torch, re-tempered in the water bath and further refined intraorally.

BORDER MOLDING



Area “A” has been refined. Note that the denture extension in this area is thinner and flatter. What structure limits the thickness and length of the denture border in this region?

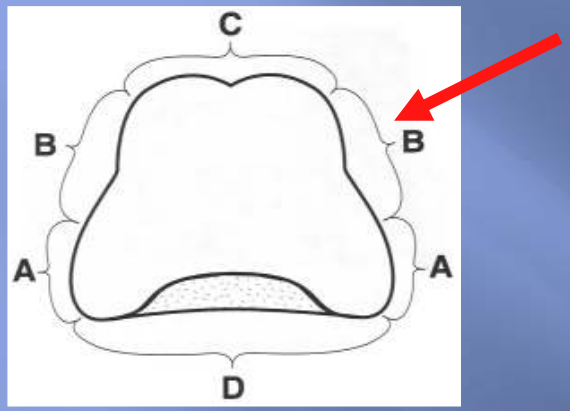
Coronoid Process

NOTE THE DIFFERENCE

Before

After

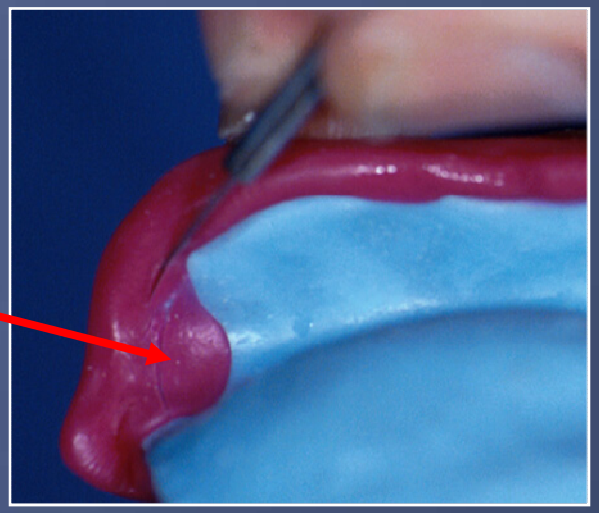
BORDER MOLDING

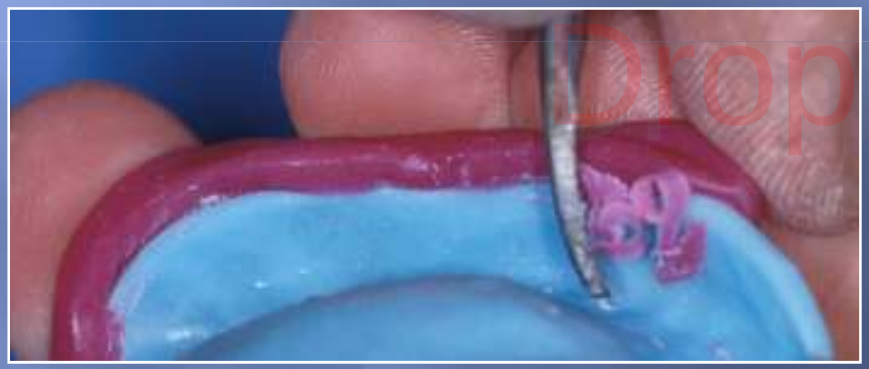


- Insert the tray with compound being careful to retract the cheek with a mouth mirror or your index finger
- Area “B” is molded by instructing the patient to pucker and smile

TRIMMING THE COMPOUND

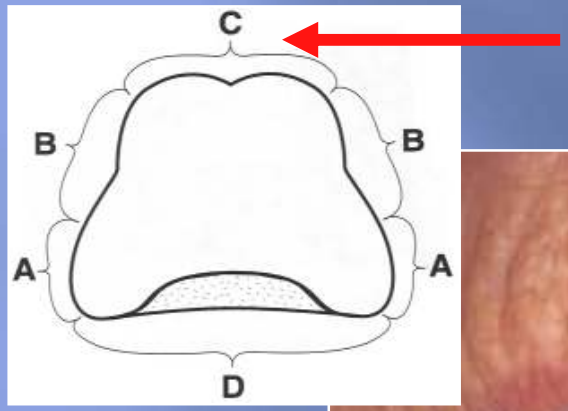
- Use a red handled knife or Kingsley scraper (arrow) to remove the compound that flowed into the inside of the tray.





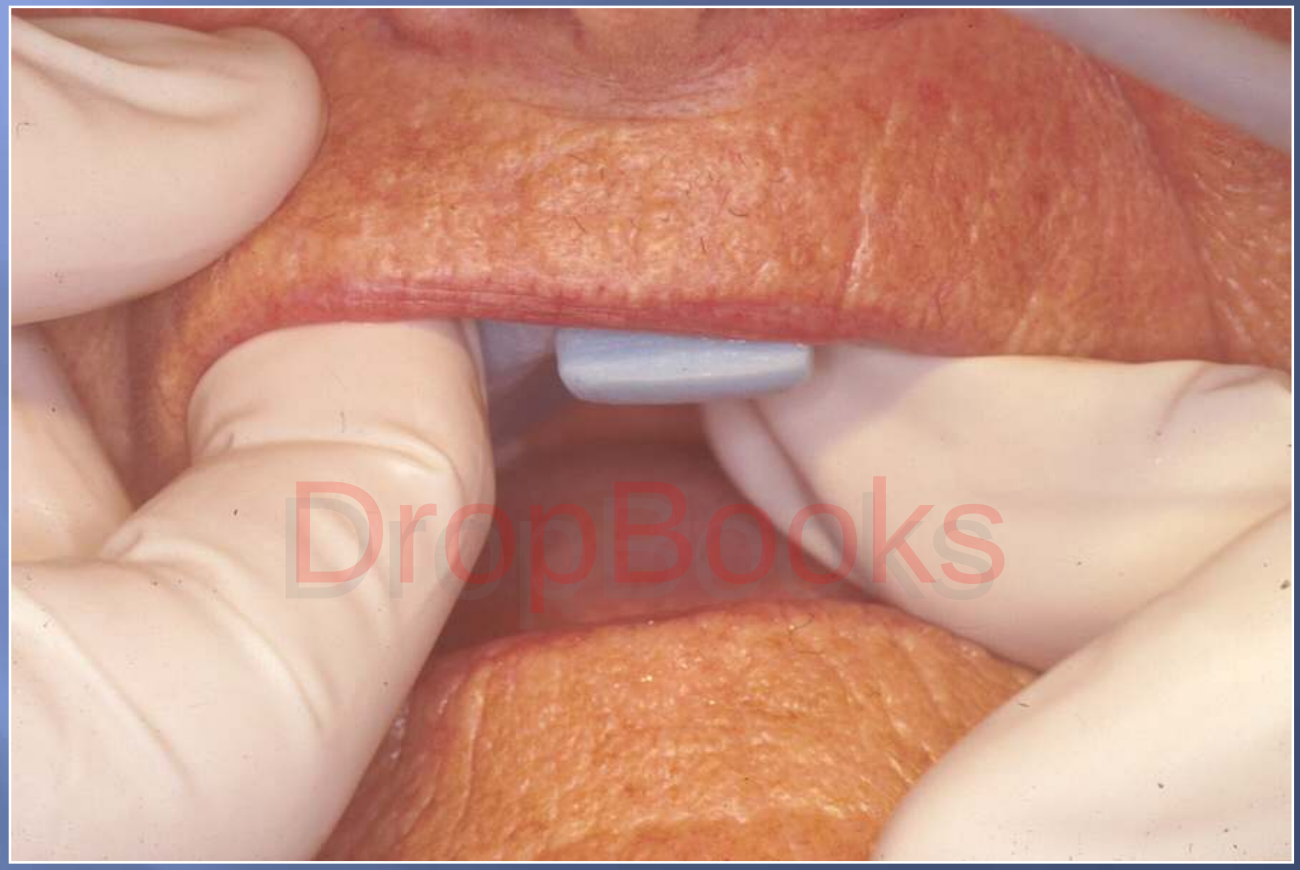
- Carefully trim away the compound that has flowed into the inner surface of the tray. Failure to do so will result in an impression that displaces tissues inappropriately.

BORDER MOLDING THE LABIAL FLANGE-AREA "C"



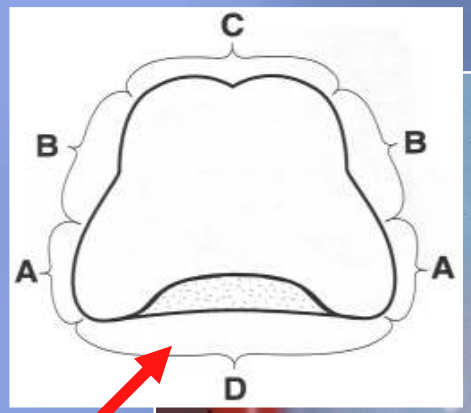
- **The anterior areas are molded by the following:**
  - Massage the upper lip with a lateral motion
  - Instruct the patient to pucker and smile
  - Check the flange thickness for proper lip support

BORDER MOLDING



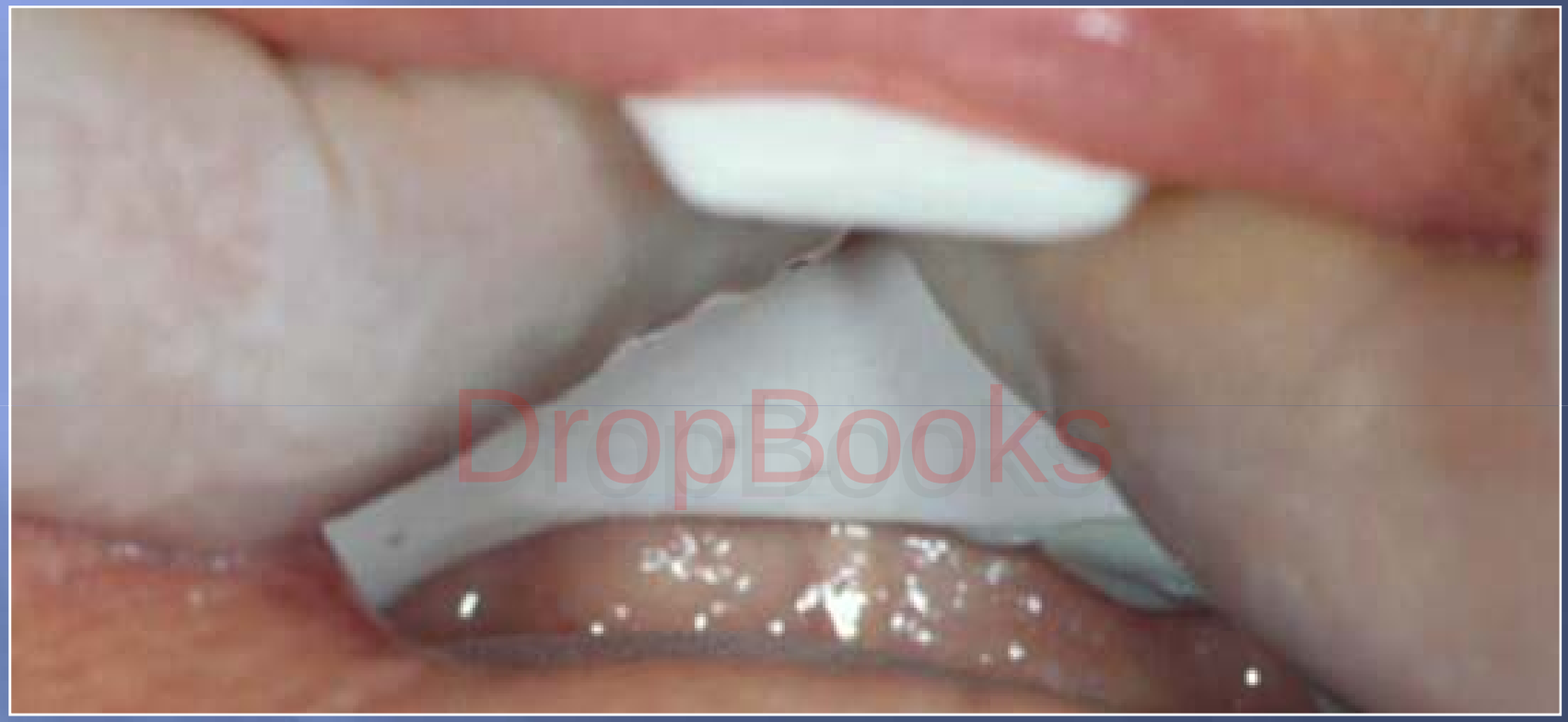
Don't pull down on the lip. This maneuver will foreshorten the denture flange.

DEVELOPING THE POSTERIOR PALATAL SEAL- AREA "D"



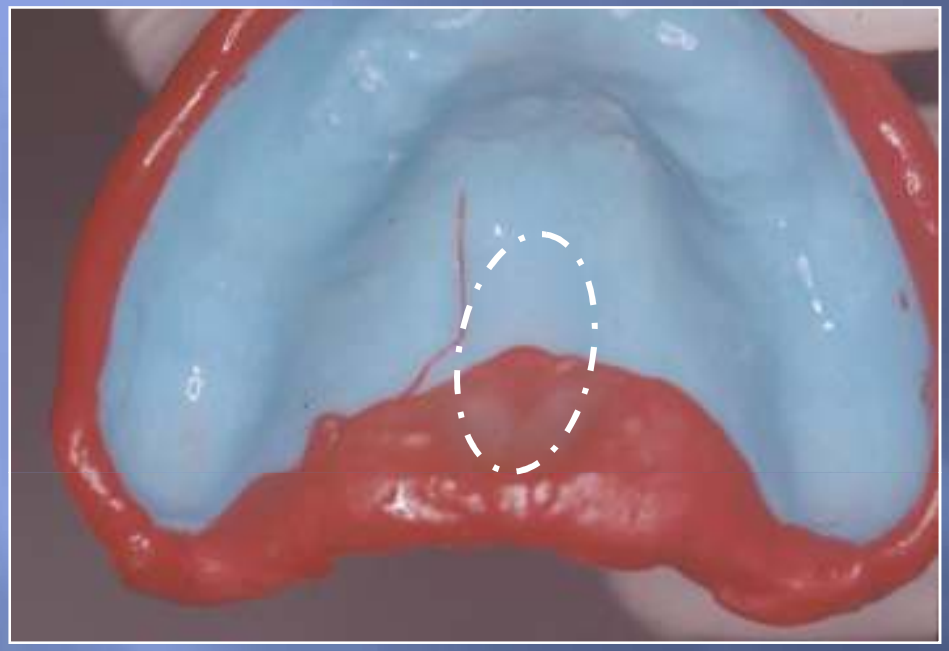
- Place 2-3 mm of compound on top of the tray in a butterfly configuration to displace the tissues in the posterior palatal seal area.

DEVELOPING THE POSTERIOR PALATAL SEAL- AREA "D"



- Seat the tray firmly. After the tray has been in position for 10 seconds ask the patient to swallow. Remove the tray and chill.

TRIM COMPOUND IN POSTERIOR PALATAL SEAL AREA



- This area anterior to posterior nasal spine. Remove the compound so as to eliminate heavy contact in this region.

TESTING PERIPHERAL SEAL

- **Pull on the tray handle to test retention. If retention is lacking check the following:**
    1) Check the posterior buccal vestibule, hamular notch and posterior palatal seal area
    2) Check the length and thickness of the denture extensions

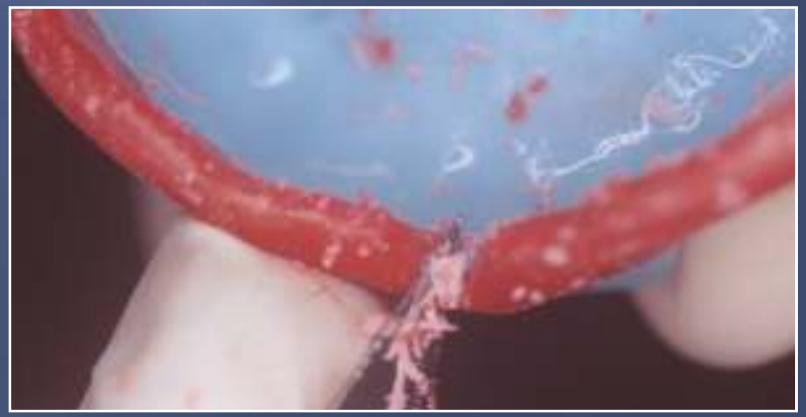
BORDER MOLDING-CUT BACK

- If the retention is adequate you are ready to cut back the compound.

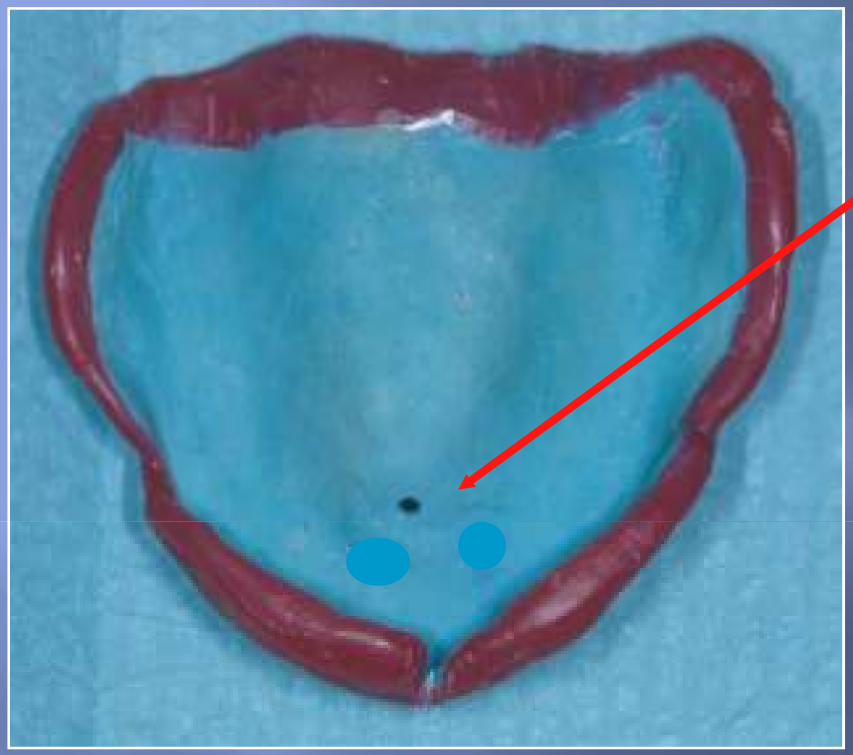
BORDER MOLDING-CUT BACK

- With the edge of your knife blade scrape away a thin layer of compound from the border molded periphery. This will create space for your impression material and avoid excessive tissue displacement.

- The areas of the periphery overlying the frenums should be relieved more aggressively.



WHAT IS THE PURPOSE OF THE VENT HOLE?

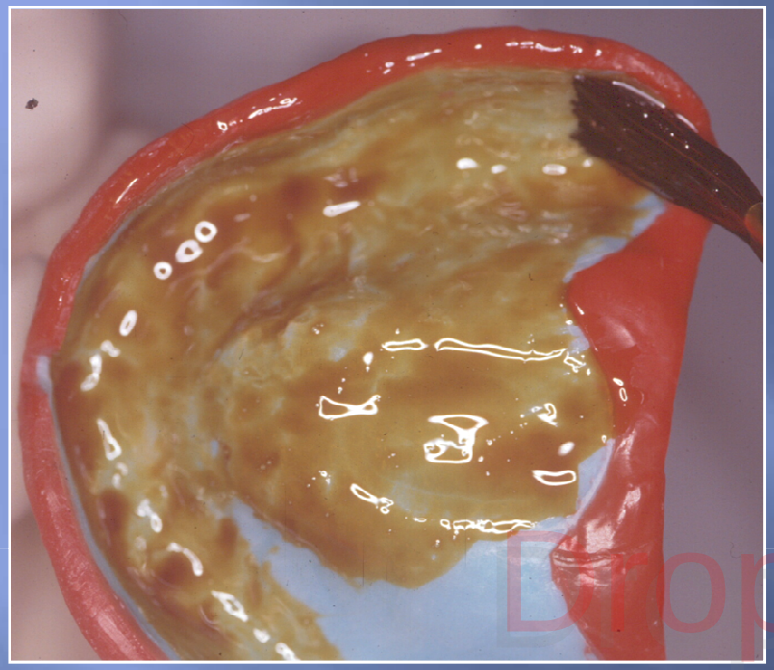


Caution: Do not drill the palatal relief hole(s) in the maxillary tray until the borders have been molded and peripheral seal demonstrated.

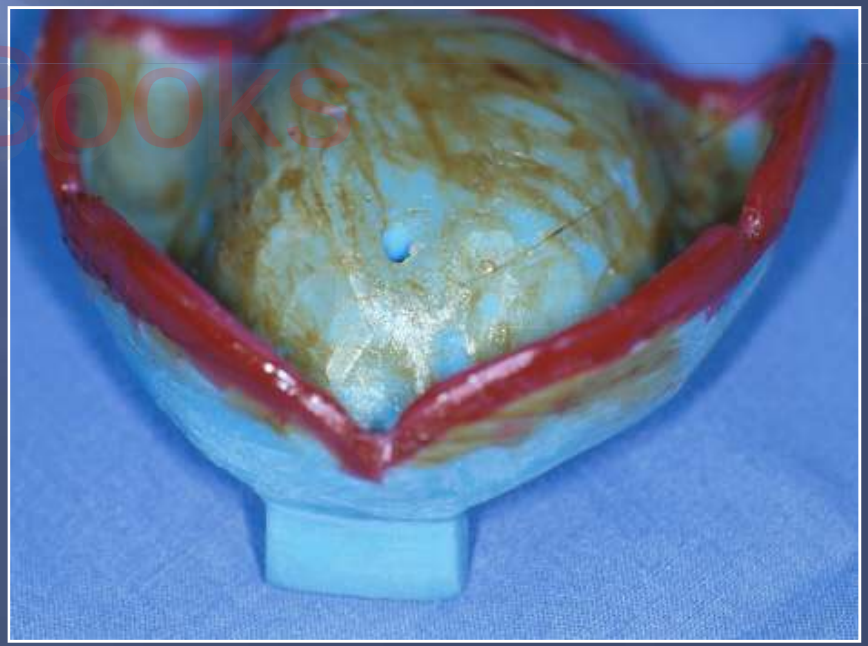
Purpose of the Vent Hole

1) To permit proper seating of the loaded master impression tray while making the final impression.
2) To relieve the pressure over the incisive papilla and the rugae.
3) To prevent entrapment of air bubbles in the impression.

APPLY TRAY ADHESIVE



- Apply a thin layer of tray adhesive and permit it to dry. Note that adhesive is applied 2-3 mm onto the external border of the tray.



FINAL MAXILLARY IMPRESSION

Material Selection for Final Wash Impression

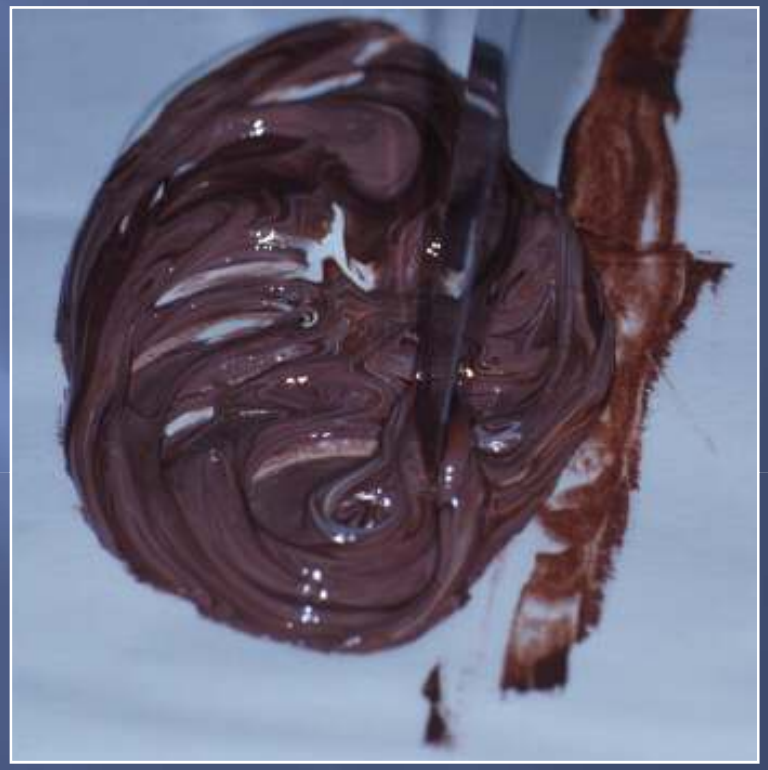
- An elastic, free flowing, light body polysulfide impression material is recommended for most maxillary impressions.

- Polyvinylsiloxane impression materials may also be used. The material should have hydrophilic properties and adequate viscocity to reduce the probability of gagging.

FINAL MAXILLARY IMPRESSION

- Measure out equal lengths not equal amounts of polysulfide base and catalyst impression material.
- Keep the strips of material widely separated so they do not flow into contact and set prematurely.
- Tape your mixing pad close to the edge of the counter. A stable, immobile mixing pad will make it easier to mix the material.
- Use the tapered blade spatula as shown.

FINAL MAXILLARY IMPRESSION



- Begin mixing with the tip of your spatula.
- Attempt to confine the impression material to a small area of the pad.

FINAL MAXILLARY IMPRESSION

- Finish mixing the polysulfide material with the flat surface of the mixing spatula. This technique will minimize the number of air bubbles incorporated into the material.

- Apply a thin layer of impression material to the tray with a cement spatula.

FINAL MAXILLARY IMPRESSION

- The tray is coated as opposed to loaded with a thin layer of impression material.
- Close inspection reveals that there are no bubbles associated with the impression material and that all surfaces are coated.

FINAL MAXILLARY IMPRESSION

- Retract the lips with your index finger or mouth mirror and seat the tray.

*Be sure to drape the patient before making the final impression. Polysulfide material permanently stains clothing.

FINAL MAXILLARY IMPRESSION

We don't need an impression of the uvula.

- Raise the lip and line the tray up to the frenum. Firmly seat the tray and allow the impression material to flow. Use the mouth mirror to remove excess material that may be flowing down the patient's throat.

FINAL MAXILLARY IMPRESSION

Once the tray is seated proceed with tissue manipulation as during border molding.

- massage face
- pucker lips
- smile
- move jaw side to side

- Instruct the patient to breathe deeply through their nose and tilt their head forward.

FINAL MAXILLARY IMPRESSION

- Hold the tray in position until the impression material is set. Light body polysulfide impression material requires 7-8 minutes to polymerize.

FINAL MAXILLARY IMPRESSION

Completed Maxillary Impression

- Smooth well defined peripheries
- Maximum extension
- Even pressure distribution (there should be no areas where the underlying tray or compound shows through)
- There should be intimate tissue contact

TRIM AND DISINFECT THE IMPRESSION

- Trim the excess unsupported impression material.

- Spray the impression with the appropriate disinfectant.

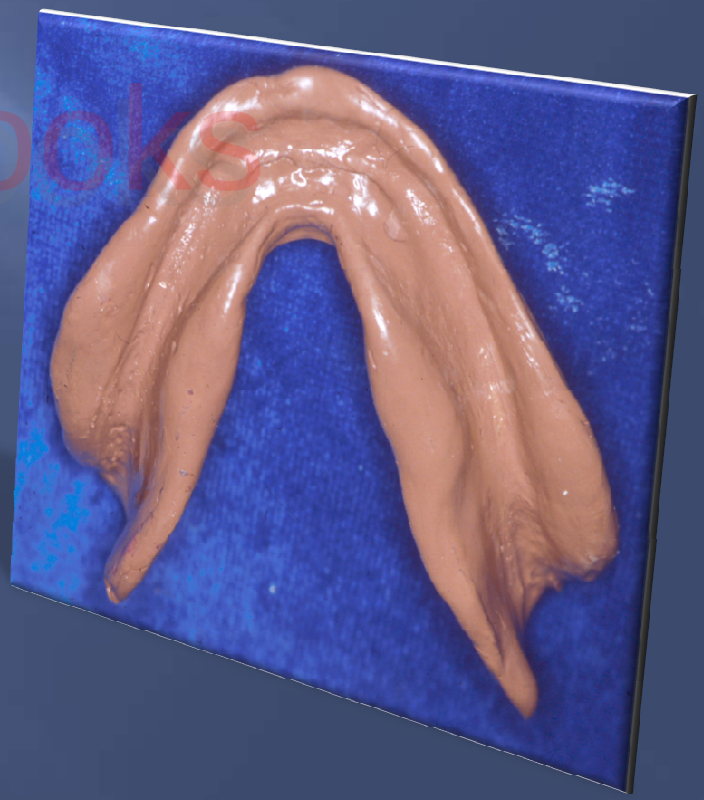
COMPLETED MAXILLARY IMPRESSION

- Impression is now ready to be boxed. Remember, the impression must be poured within 1 hour to avoid distortion.

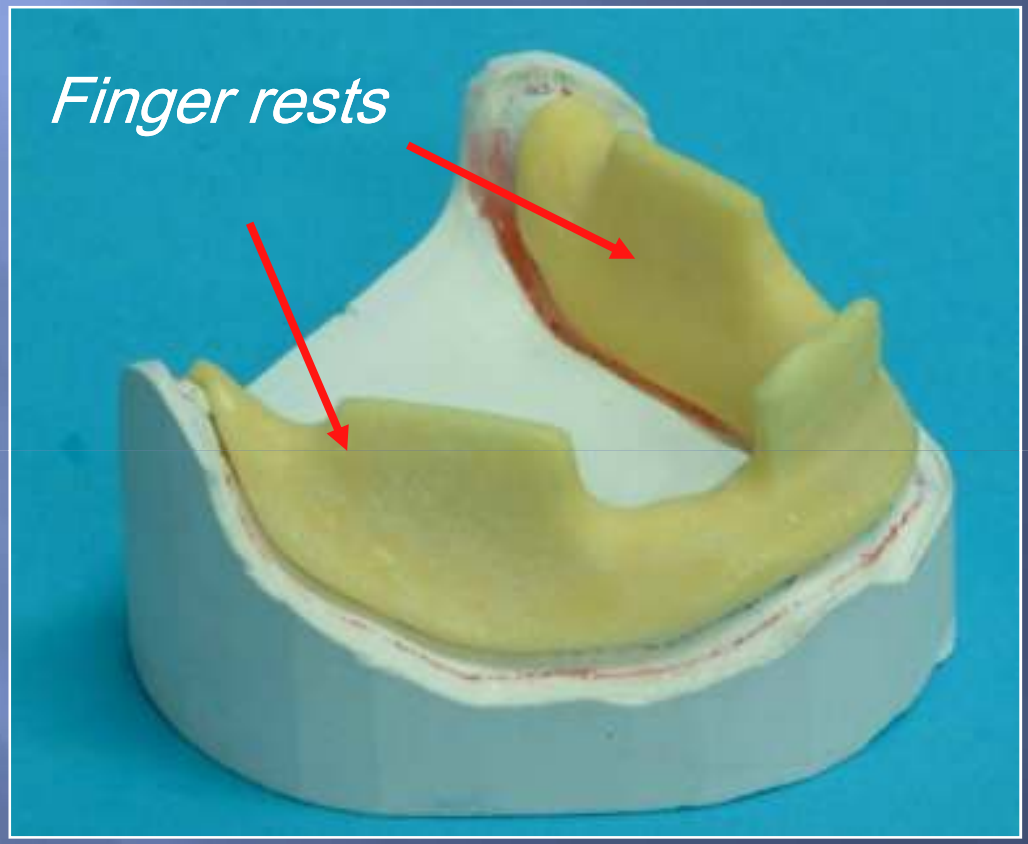
FINAL IMPRESSIONS: BOXING & POURING

- Inspect the impression for voids or bubbles
- Box impression and pour

Mandibular final impression



MANDIBULAR FINAL IMPRESSION



- Note the finger rests and the size and position of the handle.

Try in the tray

The extension should be 2-3 mm short of the frenum and the depth of the vestibules.

MANDIBULAR ARCH

a) Outline the retromolar pad with an indelible pencil stick.

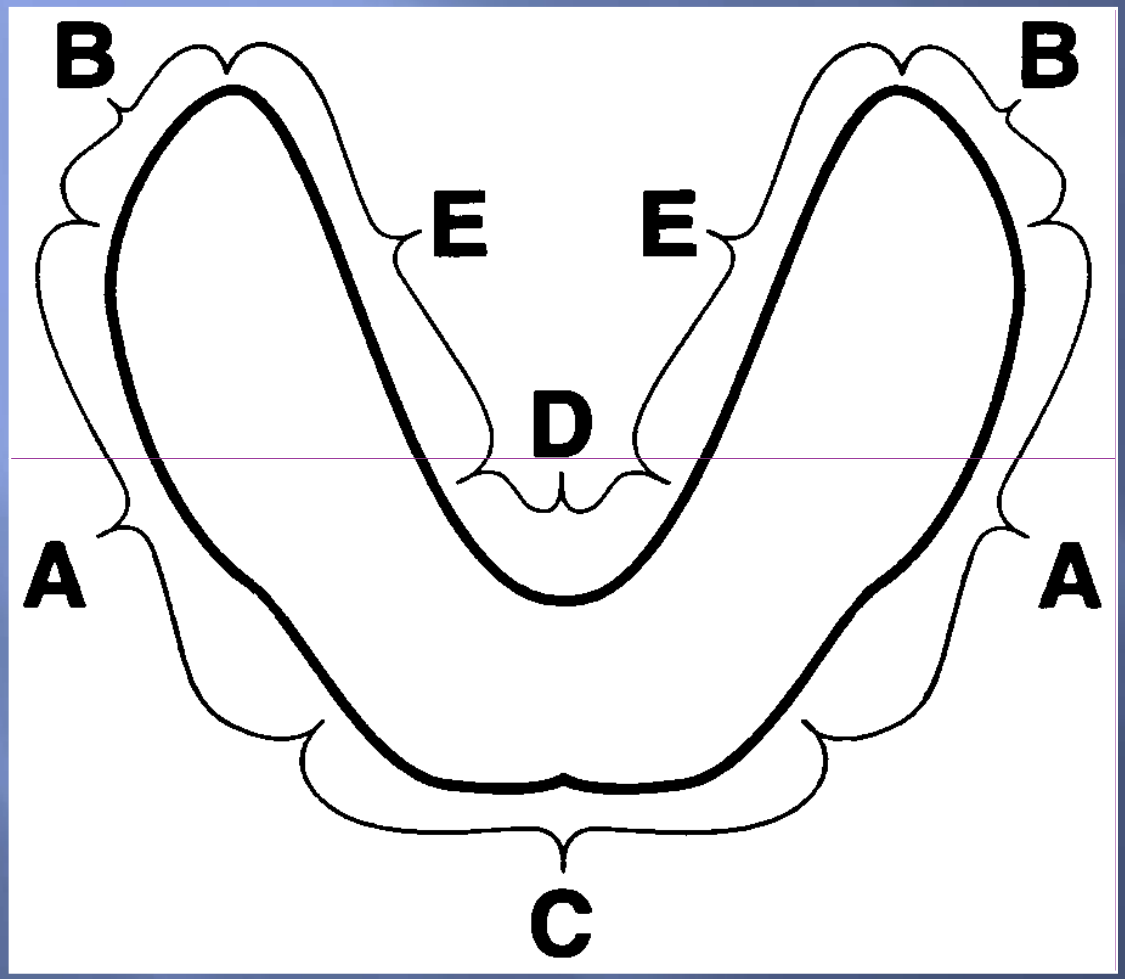
b) Check to ensure that the tray properly extends onto the pad and does not impinge upon the masseter groove.

MANDIBULAR ARCH

- *Note the difference in the denture extensions*

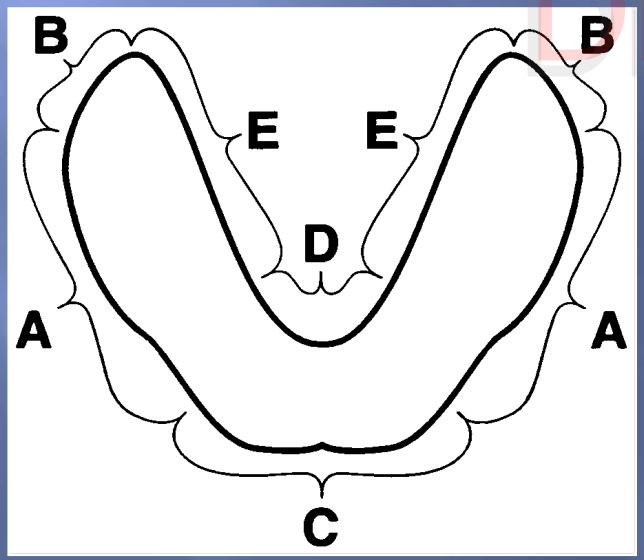
Our objective is to maximize the extensions of the new denture.

SEQUENCE OF MANDIBULAR BORDER MOLDING



BORDER MOLDING

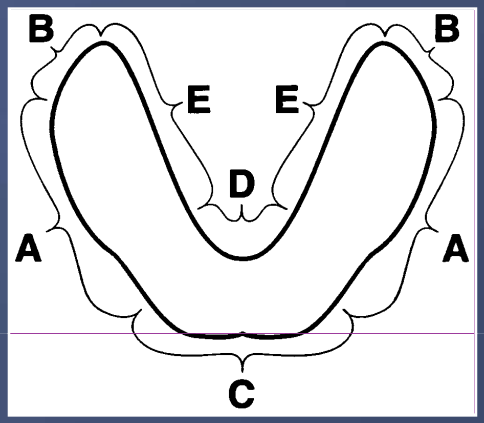
- Dry the tray. Slowly heat the compound and apply to area “A” on one side of the tray.



BORDER MOLDING

<u>Always temper the compound in the water bath</u> for 5 seconds before placing the heated compound in the mouth. The water bath should be set at 110° when using low fusing compound.

BORDER MOLDING



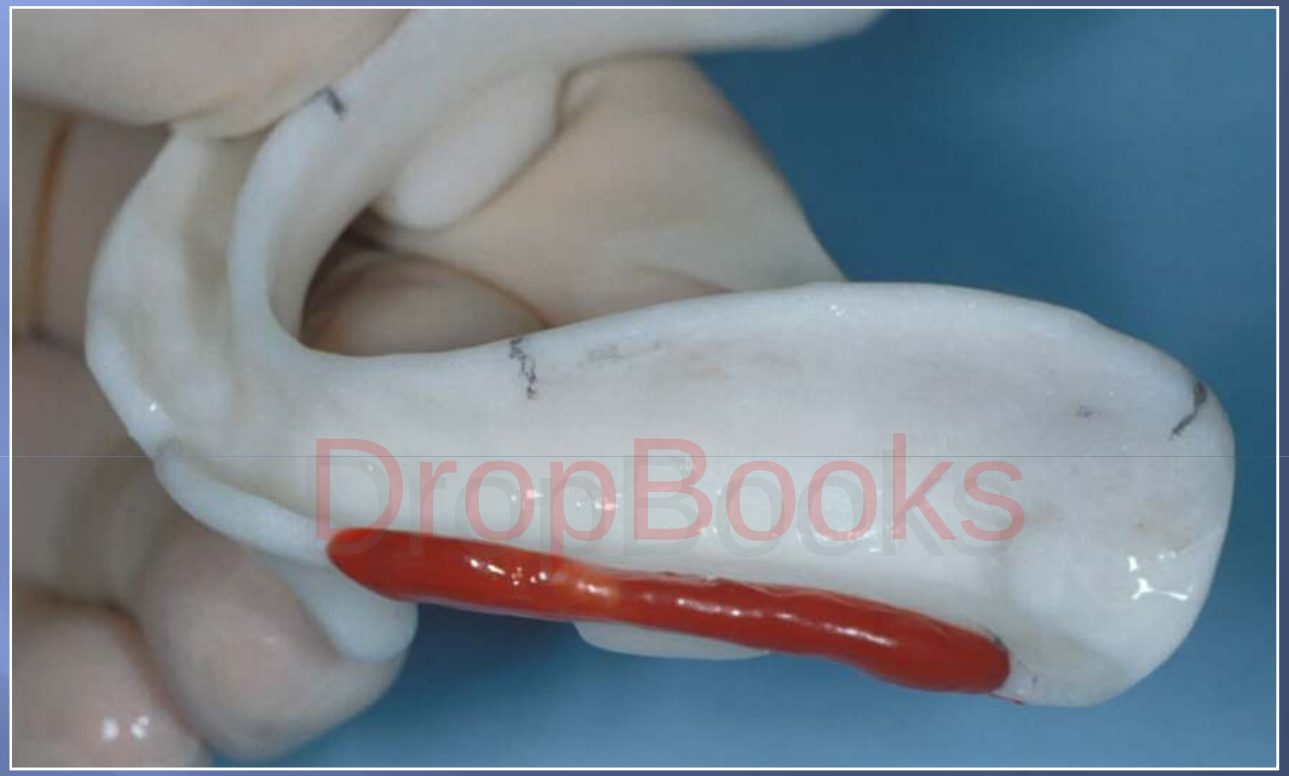
- Insert the tray with compound being careful to retract the cheek with a mouth mirror or your index finger.
- Be careful to seat the tray evenly.
- Define the tray extension by molding the lateral border “A” by massaging the cheek and having the patient pucker and smile.

BORDER MOLDING



- Remove tray from the mouth and chill the compound
- Trim the excess compound that has flowed onto the tissue surface or the external surfaces.
- This is done with care using a red handled knife.

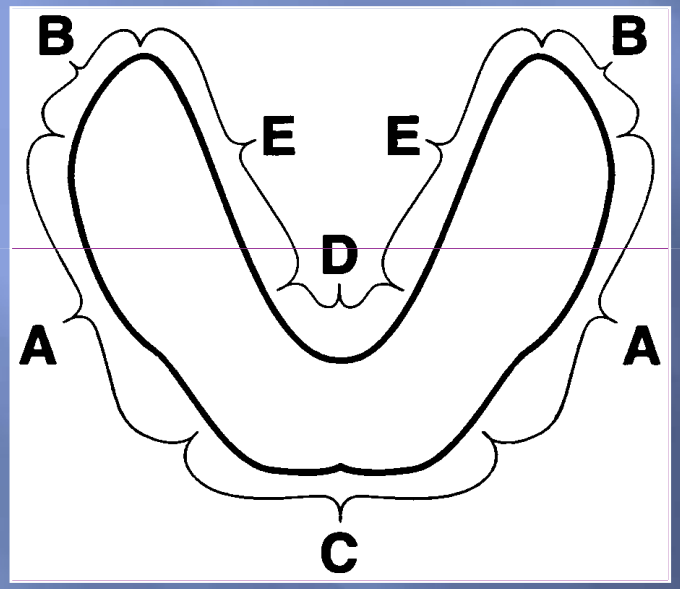
BORDER MOLDING



Section “A” on one side is complete. This defines the proper tray extension for this area.

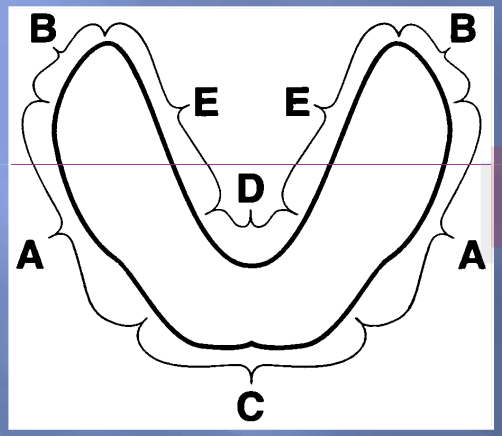
BORDER MOLDING

Add compound to area “B” (masseter groove region and the posterior border associated with the retromolar pad).



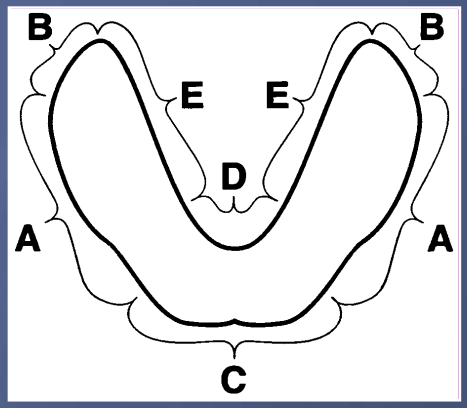
Temper, carefully rotate the tray into the mouth, and ask the patient to close while holding the tray in position, resisting the closure with your forefingers on the finger rests.

BORDER MOLDING



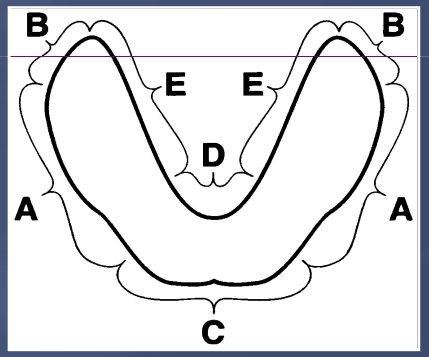
Area “A” and area “B” have been completed and trimmed. Avoid displacing the tissues associated with the retromolar pad.

BORDER MOLDING



- Apply compound to area “C”. Temper, insert and gently massage the lower lip. Do not pull up the lip for it will foreshorten the labial vestibule.

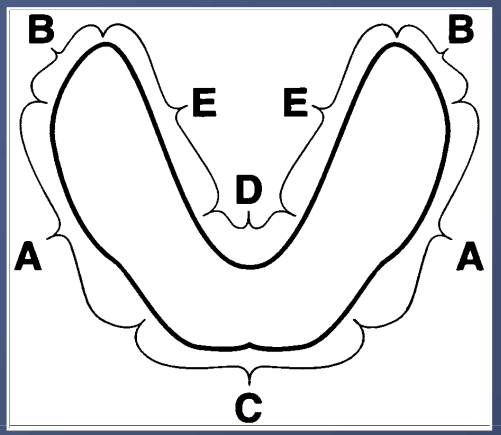
BORDER MOLDING



- Add compound to area “D”.

BORDER MOLDING

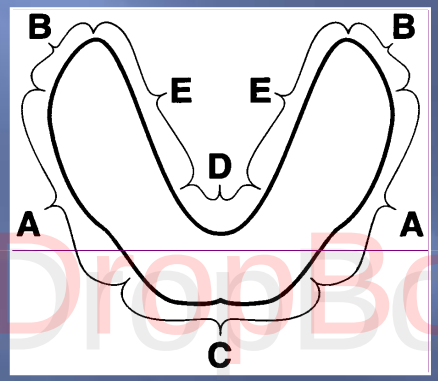
- Temper, insert and mold area “D” by instructing the patient to push their tongue against your thumb placed in the lower incisor area.



- Proper extension into area “D” will create seal for the mandibular denture in selected patients with favorable tongue position and floor of mouth posture.

BORDER MOLDING

- Add compound to area “E”.



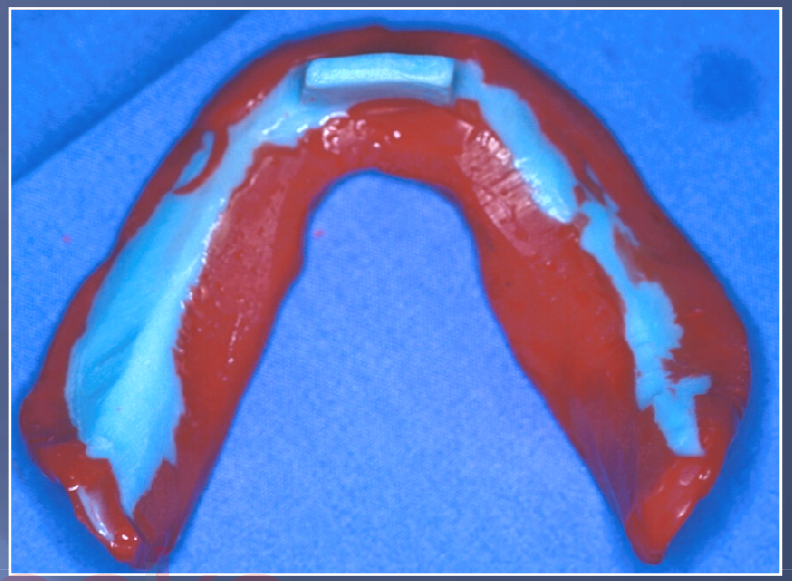
- Temper, insert and mold area “E” by instructing the patient to push their tongue against your thumb placed in the lower incisor area and to swallow. It may take several applications to properly define the length and contour of the denture border in this area.

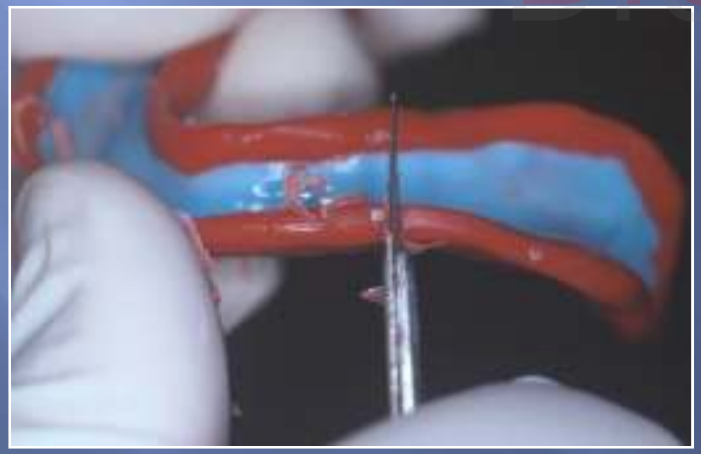
BORDER MOLDING

Inspect the border molding carefully to ensure that the extensions are well defined. The borders should be smooth and rounded.

Note the varying thickness of the lingual flange. The thinnest border extends into the retromylohyoid space.

BORDER MOLDING





Scrape a thin layer from the compound border to provide space for the impression material.

Tray Adhesive

After the compound is cut back apply a thin layer of polysulfide tray adhesive to the surface of the tray. Be sure to apply the adhesive 3-4 mm beyond the border.

Load Tray

Mix polysulfide as previously directed and apply a thin layer of impression material to the tray.

Do not overload the tray.

MANDIBULAR
FINAL IMPRESSION

Instruct the patient to lift their tongue. Insert and seat the tray and begin border molding. Continue border molding until the material begins to polymerize.

Do not let go of the tray. Hold the tray in position until the material has polymerized.

MANDIBULAR FINAL IMPRESSION

Following polymerization (7-8 minutes), retract the lip to break the seal and gently remove the tray.

MANDIBULAR FINAL IMPRESSION

Rinse, disinfect, and carefully inspect the impression.
Remove flash with a sharp scissors.

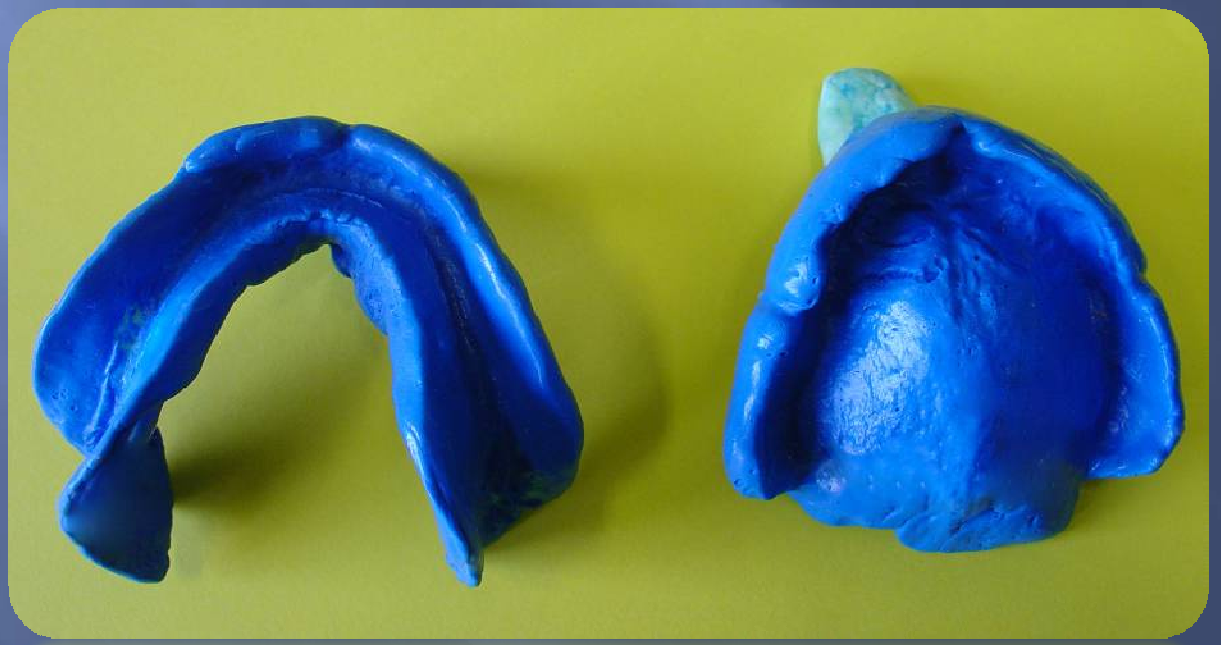
MANDIBULAR FINAL IMPRESSION

Features of a good impression

- Smooth well defined peripheries
- Maximum extension
- Even pressure distribution (there should be no areas where the underlying tray or compound shows through)
- There should be intimate tissue contact

Polyvinylsiloxane (PVS) Material & Technique

An alternative border molding and final wash material is PVS. Although PVS materials do not have the hydrophilic qualities of polysulfide materials there are some brands that are significantly more hydrophilic than others. Choose a PVS material that has the best hydrophilic qualities.



ALTERNATE TECHNIQUE- PVS

Advantages of PVS

- Ease of mixing and dispensing
- No odor
- Stable – does not have to be poured immediately
- ease of clean-up
- Stable – does not have to be poured immediately

Disadvantages of PVS

- Expensive
- Not as hydrophilic
- Excessive flow

ALTERNATE TECHNIQUE- PVS

A heavy body material is used for border molding and light body is used for the final wash.

ALTERNATE TECHNIQUE- PVS

- Adjust custom tray as indicated previously.
- Paint the tray with a thin layer of adhesive.

ALTERNATE TECHNIQUE- PVS

A wash impression is then made with the light body material.

Gently massage the patient's lips and cheeks.

One minute after insertion of the tray instruct the patient to gently pucker, smile and move their jaw side-to-side, forward and back.

Infection control in prosthetic clinic

- All autoclavable instrument should be autoclaved (stock trays, mirrors or metallic items).
- Use disposable items wherever possible.
- Other nonautoclavable objects as rubber bowel and spatula are immersed in gluteraldehyde.
- Micromotor handle and handpiece should be wraped.
- All work surface should be sprayed by strong disinfectant.
- Masks and gloves should be used.
- Impressions should be immersed in gluteraldehyde for 30 min.


THANK YOU